

Oakley Woodlands Group

Coppicing Training Manual 2024



Coppicing Training notes

Oakley Woodlands Group

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These training notes supplement training sessions led by members of Oakley Woodlands Group.

OWG is supported by Basingstoke and Deane Borough Council

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A Brief Background

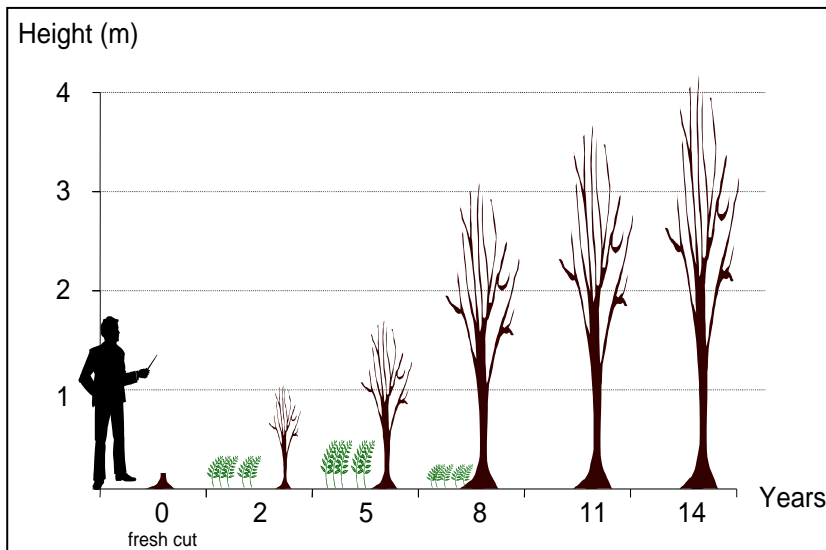
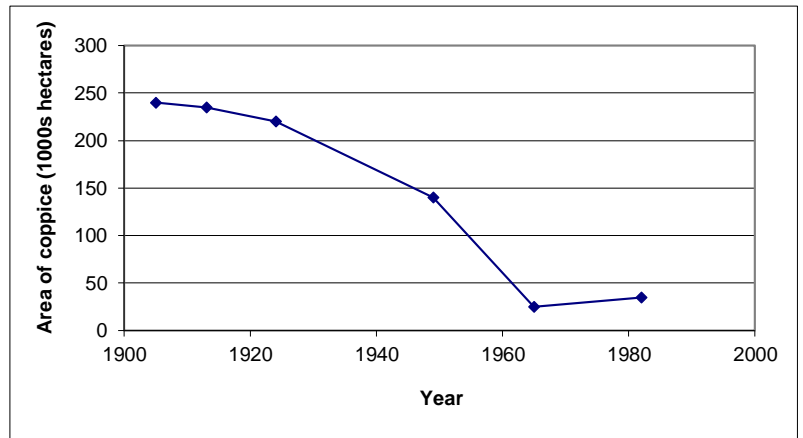
What Is Coppice?

A coppiced wood is cut periodically, with the trees allowed to re-grow from the cut stumps, which are called stools. This produces numerous shoots or poles rather than one main stem.

Why Coppice?

Coppicing is a traditional form of woodland management that has shaped many of the remaining semi-natural woodlands in the UK but the practice has declined drastically in the last 100 years (see right). Much of the diversity and richness of the woodland in this country has thrived under the coppice system for thousands of years.

The original objective of coppicing was to provide products that were in everyday use, ranging from broom handles, through to fencing and roofing material. Although there is



still some commercial coppicing carried on, the woods in Oakley are viewed as amenity woodlands, and voluntary work helps maintain the environment.

Periodic cutting provides optimum conditions for a wide variety of plants and trees in their various stages of growth provide, in a relatively small area, a rich mosaic of habitats, attracting a wide range of flora and fauna (see left).

Woods that have not been coppiced tend to be of the same age and structure, supporting fewer species.

Coppicing for conservation turns everything on its head. The coppicing is to facilitate a wide biodiversity, and the unintended consequence is piles of timber to be disposed of. Hence the need to turn the arisings into products.

When is Coppicing Carried Out?

Traditionally coppice is cut between October and March when:

- Birds are not nesting
- There is no foliage on the trees
- Working conditions are likely to be more amenable
- There is a full seasons growth ahead for the new shoots

In practice, coppice can be cut at any time of the year, though late summer cutting may not allow sufficient time for new shoots to harden off before the onset of early frosts. Furthermore, summer cut wood is less durable than winter cut material.

Compared with the growth of a newly planted tree, the initial re-growth of a coppice stool is very vigorous. Some species may grow as much as 2.5 metres in the first year.

Potential Problems With Coppiced Woodland

Commercially managed coppice does not have any dead trees nor does it have the more shaded, damp conditions of neglected woods that can provide a niche for a range of species unable to survive the impact of regular site clearance. From a biodiversity viewpoint therefore, it is important that standing and fallen deadwood are retained and that some areas are left unworked altogether.

The objective of OWG is to manage the woods to provide as much diversity as possible.

Coppicing by Oakley Woodland Group

The techniques described in this section are the main ones in use in Oakley copses, and have been developed by group members as they have gained experience. Other techniques may be available but have not been selected for the OWG applications., and there are some activities not covered by this training.

Management Plan

Each year, the group agrees a management plan with the Council, and identifies the target actions for the season.

Areas to be coppiced are marked out with tape or string. In general, all hazel inside the marked area is cut. Large trees such as oak are left. Other trees that should NOT be felled are marked with tape.

Work parties and the role of the leader

Work parties normally take place every second Wednesday, and every second Saturday during the season. They run from 10:00 to 13:00 hrs.

Each work party is led by an experienced member of the group. They are responsible for:

- Explaining the work to be done that day.
- Giving a tools talk to any volunteer who is not familiar with any tool to be used.
- Ensuring that work is carried out in a safe manner.
- Bringing tools, materials and catering kit to and from site.

Products

Coppicing produces a substantial amount of wood! Rather than just burn it all, OWG tries to utilise as much as possible in the form of various products. We use a number of stakes within the woodlands, but we also provide products to other conservation groups for hedge laying, and riverbank remediation, to local gardeners for plant supports, and discerning bar-b-que chefs.

A table of products and their dimensions is attached in the appendix.

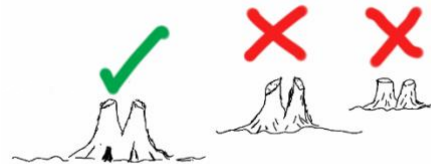
Coppicing techniques

Preliminary Checks for Cutting Hazel

When starting to coppice hazel, examine the bush before cutting. First, look for what **products can be obtained from the bush and fell it accordingly**. Note that stakes, hetherings and bean poles are often available from quite high in the bush, not just at ground level. Next, look how you can most easily access the places to be cut and get the cut branches safely to the ground.

Cutting Hazel

Clear the ground from around the base of the bush to improve access to the very bottom of each branch. Cut above the root ball but as close to the ground as reasonably possible. The finished stump should be no more than 30cm high. Cuts should gently slope outwards from the centre of the bush to aid drainage from the finished stool. Avoid a steep slope as this will be harder to cut, and it leaves a dangerous point.



Avoid cutting very thick timber (approximately 4 inches (100mm) diameter or more) by hand as this is very slow and laborious. It also increases the risk of twisting the blades of bowsaws. Sometimes an easier cut can be made from higher in the bush without wasting any potential product - if not, leave the entire branch. In both cases, the remaining timber will be cut later by chainsaw. It is better to leave enough standing that it is obvious that trimming is needed as this will make it easier for the chainsaw operator.

Use loppers and bowsaws as far as possible for cutting. However, it often happens that only a narrow access gap is available for the saw. In these cases, use a pruning saw. Why not use the pruning saw all the time? - Blades are more expensive to buy than bowsaw blades.

When branches have been felled, cut them down to product as soon as possible, do not let huge piles of cut material build up to deal with at the end of the session - it takes too long.

Protective Fence Erection

When the bushes have been cut down to stools they need protection from damage by deer and rabbits. Deer are a particular problem in the Oakley woodlands. These animals eat the young shoots as they start to grow and make the new bushes very branched and therefore of little use for making products. When the bush has grown above browse height this damage will cease, so it is only necessary to protect the stools for 3 or 4 years (a somewhat longer period is needed if new whips have been planted). OWG's early attempts at protection using traditional brushwood barriers round the stools, proved not very successful and extremely time consuming.

Our present method of fencing coppiced areas seems to work well as long as the fence is carefully erected and well maintained. It consists of plastic mesh fencing about two metres high supported on hazel stakes. It is reasonably economical compared to more permanent fencing methods and reasonable quick to erect. We have been able to reuse some of the materials. It is very effective protection against deer and provided that it is finished close to the ground is at least a deterrent to rabbits. In addition, we have recently started to erect dead hedges alongside the netting as an additional deterrent to rabbits. The following paragraphs highlight the main points to watch in erecting this fencing.

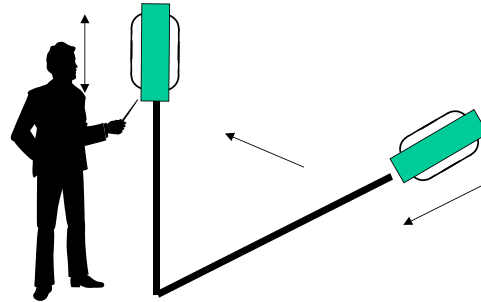
Stakes are straight pieces of hazel about 1.5 to 3 inches (35mm-75mm) thick and about 7 feet (2.1m) long pointed at the **thin end**. They are driven firmly into the ground with a drivall. They need to be long enough to protrude above the top of the fence, but if they are very long it is difficult to handle the drivall. Since these stakes are purely for our own use and are temporary, they need not be of such

top quality as we would sell as product. However they must:

- Be long enough
- Be strong enough to be driven well into the ground
- Be straight enough to enter easily into the post driver.

The stakes are spaced at approximately 6 feet (2m, or 2-3 paces) intervals but natural obstacles dictate this to some extent. It is better to have them too close together than too far apart. It is usually best to lay about 10 or so stakes on the ground to establish their positions before driving them in.

Driving the stakes is a one or two-person job. One good technique is as follows. Put the point of the stake on the ground where it is intended to drive it in. Hold the point of the stake in position with a foot then lift up the other end of the stake to hip to chest height. Place the drivall over the lifted end of the stake. Whilst continuing to hold the point of the stake in position with the foot, raise the other end of the stake complete with drivall into the vertical position. One person then hold the stake (wear gloves and make sure hands are well below the drivall) while the other person makes some gentle blows with the drivall to get the point started into the ground. Both persons can then grip one handle each of the drivall and drive the post firmly home. Occasionally suitable natural stakes (i.e. trees or bushes on the uncoppiced side of the fence) can be used for additional stability. It is essential operators wear hard hats.



The mesh is provided in 30 metre rolls by 2 metres wide, and is heavy and awkward to manipulate. The edges are also sharp so it is essential to wear gloves when handling it. Laying out the mesh and offering it up to the stakes is a job for two persons (at least!). With 10 or so stakes already erected, wind the roll in and out through the stakes before starting to offer it up or fasten it to the stakes. Then raise the end of the roll to the first stake - this may be a stake in a completely new section of fence or the last stake of a section of fencing already completed. If it is the start of a new section, wrap the mesh/ once round the post then overlap it back for a few inches. If it is continuing onto an existing section of fence, overlap the existing mesh a few inches. Offer the mesh up to the stake remembering that the bottom of the mesh should be on the ground to deter rabbits. Tie the mesh to the stake at three points (top, middle and bottom) using cable ties or suitable twine

Move on to the next stake and pull the mesh up tight. This time the mesh is simply laid up against the stake and tied off as for the first stake. Continue on to the other stakes. At the end, if further stakes are to be laid for that fence, leave the roll ready to continue after more stakes have been driven in. When a closure point is reached (i.e. the fence has enclosed a complete section of coppice) cut off the remainder of the roll of mesh allowing enough to overlap the existing mesh by a few inches. If you run out of mesh before reaching the end of the fence, cut it off a few inches beyond the last stake it will reach, start a new roll and overlap the tow ends at the stake. Tie them both on together.

At one or two convenient places in a completed fenced area (compound), a gate will be needed. Ideally this will be where a section of fencing starts, but it is more important to ensure that it is in a useful position for access into the compound. The gates are intended for occasional access only. Make the gate by terminating the mesh with a loose stake (i.e. not driven into the ground) immediately adjacent to a fixed stake to which it can be tied.

Where the ground is uneven, it is advantageous to peg the netting to the ground with a peg cut from branched hazel.

Ride Clearance

The main rides in both copses are cleared to ensure that flora has maximum sunlight in these areas to encourage growth. The OWG has widened the rides in both copses by thinning out the hazel at the edges of the rides and more of this work may be needed in future. There is evidence of dormice in Cowdown Copse and these creatures benefit from access throughout the tree canopy. For this reason there is a limit to how much widening of the rides is acceptable, although flora would benefit. We have attempted to overcome this dilemma by making scoops at various points on the rides and ensuring that aerial routes remain at other points.

- The ideal time for ride clearance is autumn when most flowers have stopped growing and seed has been scattered.
- An access path down the centre of all rides and paths is cleared in midsummer.
- A complete cut is carried out in late autumn or during the winter.
- Aim at developing the best profile for the ride: a flat, fully cut path down the centre, mid height vegetation allowed to grow at the ride edges then rising to normal coppice at the outer limit of the ride.

Ride clearance can be (and has been) carried out using hand tools but this is very laborious work. Consequently we have adopted the use of power strimmers and brush-cutters to do most of this work. Operators of these have to receive certified training.

Stump Removal

Where we have widened the rides and made scoops, hazel has been cut down and we do not want it to re-grow. This also applies to the area between the hedge and the fence in St. John's. In these areas it is beneficial to dig out the hazel stumps and roots to:

- Avoid the need to regularly cut back the shoots,
- Make it much easier to use a power strimmer in these areas.

Stump removal is a laborious job, but we are nevertheless making good progress with hand tools, and we have purchased a jacking device (Jackall) which we can use to pull stumps from the ground. We are currently introducing this, and interested group members will be trained in its use during work parties.

When using the Jackall, the ground around the root is loosened using mattocks and spades. The Jackall is then set up, and the root extracted from the ground. Finally the hole is filled in and levelled out with the surrounding ground as much as possible using the spoil from digging.

Making Stakes, Hetherings and Bean Poles

These products are all described in the attached table at the end of this document.

Suitable material is selected from the cut wood, cut to length, and side branches and leaves are trimmed off. Stakes are sharpened at the thin end. This makes it easier to drive the stake in, and the stake is more firmly held in the ground. They can be sharpened with a bill hook, or axe as preferred, but the point should be reasonably central to prevent the stake from wandering when being driven in.

Making Fascines

Fascines are tight bundles of brushwood, sometimes miscalled faggots, which are used in remediation of riverbanks. OWG only makes these to order, and it is an infrequent activity.

We use frames consisting of six poles driven into the ground in two rows of three to assist in forming the fascines. The poles are about 3' (90cm) long, the rows about 15" (40cm) apart and the poles within each row about 2'6" (75cm) apart. 4 ties (lengths of binder twine about 5' (150cm) long) are laid

on the ground across the rows and evenly spaced. Brushwood is then laid on top of the ties lengthways in both directions between the two rows of poles. The brushwood is pressed down tight to form a bundle rectangular in section within the frame. When it forms a bundle about as high as it is wide, the ties are pulled tight round the bundle, tied and the spare ends of twine trimmed off. The bundle thus assumes a roughly circular section. It can then be lifted out of the frame and stacked for sale.

Nearly all brushwood up to seven feet long can be used for this job, since this makes it easier to construct the fascines. The brushwood should be left as twiggy (branched) as possible, as long as it is still possible to compress it enough to fit in the frame (by standing on it). Thick branches (more than about 1/2" (12mm) at the base) are not suitable because they are difficult to compress and make the fascine too heavy.

Fascine making is a very labour intensive job. However, it is the best way we have of disposing of brushwood so it is worth persevering. A little thought about how to organise the task is very helpful so the following hints are worth noting:

Firstly, it takes about 3 or 4 people trimming and loading the frame for every person cutting hazel. However only 1 or 2 people at a time can work conveniently filling the frame, so the cutters should make the loaders job as convenient as possible. If possible the branches should be placed directly into the frame as soon as they are cut and brought to the frame area. However, on a busy work-day, this is not possible since only a couple of people can work at the frame at a time. Therefore, if delivering wood for someone else to load into the frame, try to deliver it cut to size and stacked with all the thick ends together, close to the frame. This makes it much easier for the person filling the frame to disentangle branches from the stack.

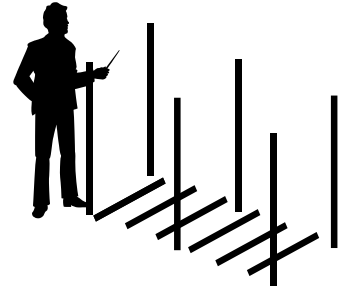
The main things to look for in the finished fascine is that it is not too heavy or bulky - our early attempts were probably too thick. A fascine should be firmly bound, reasonably squared off at the ends and not too heavy - i.e. possible for one person to lift safely and easy for two persons to handle (for manipulating it into position in use - note that we only have to carry it to the dispatch point!).

Stacking Product

We aim to stack product in clearly defined piles, but often the distinction between piles is not clear. Remember to think of the product specifications and stack each product separately, if in doubt ask the leader. Products that are bundled are best made up into bundles as soon as possible as this helps to identify what is in a particular stack. Wood for stakes, charcoal burning, and waste is perhaps the most confusing. Ideally, wood suitable for stakes should have been selected as it is cut and stacked on the stake pile. Anything left which is at least 1½" (40mm) to 2½" (60mm) thick is suitable for charcoal. Larger material is suitable for firewood. Try to keep a separate pile for charcoal. Note that we generate far more timber than we can use for charcoal so we may as well select only the most suitable. Leaders will select the position for the stacks (based on that year's plan) – the site should be accessible but well back from the rides and the entrances to the copses.

The method of stacking timber preferred by OWG is as follows:

- Put 6 stout stakes into the ground in two rows of 3 about a pace apart. The stakes should be about chest height at most, and spaced at one long pace apart
- Lay several thick pieces of timber on the ground between the stakes and perpendicular to the rows. This aids air movement, and slows rotting.
- Build the stack by placing the product between the stakes, and parallel to the rows, making sure they are held in by the stakes; they need to project at least a foot outside the end stakes. Usually one end of the pile is the access point for filling and emptying the stack, at the opposite end to this, they can project any distance as they will not normally cause a tripping hazard. Stack inwards from each end, particularly with short pieces so that a heap does not form in the centre of the pile. Careful stacking now will help make it easier to extract timber later.
- Stacks above chest height can be unstable, and may be dangerous. Don't be tempted to just add a couple more pieces. Start a new stack. If room is limited, a second stack may be started next to the first, sharing one row of stakes.



Bean poles and heatherings are stacked similarly to timber until they are bundled for sale.

Temporary stacks and brash piles

It is often necessary to pile brash, or make temporary piles. Material is removed from these piles at a later time. To make the removal easier, the pile should be built so that material lies in one direction as far as possible. That is, the cut ends should all be at the same end of the pile.

Disposing of non-product wood (“Waste”)

Inevitably there will be wood that cannot be used for products. The introduction of legislation applying to the supply of firewood has meant that there is more large material remaining. This material can be dealt with in a number of ways:

Habitat piles

These should be dispersed around the coppiced site. Short stakes may be used to contain the timber, or a simple A section pile may be formed. In contrast to product piles, habitat piles should have maximum contact with the ground, so do not use cross bearers. The piles should be no more than waste height. The length of the piles is not important, but they should be reasonably tidy to avoid trip hazards.

Dead hedges

The hedge is formed by containing brushwood within two parallel rows of short stakes. The hedge would normally run around the edge of the coupe and any deer fencing would be placed on the inside. The stakes are about 25mm to 40mm diameter and about 1m long. The rows are placed about 40 to 50cm apart. (This is about 1 cubit, or the length from elbow to fingertips). A similar spacing is used along each line. Larger material is placed in the base of the hedge and then brash is placed on top. The material is compacted as much as possible, and new material can be driven diagonally into the body of the hedge. Keep as much material as possible within the stakes and stay pieces should be trimmed off. Long thin material can be woven between the stakes in the manner of a laid hedge.

These hedges are built as coppicing progresses which means there is no requirement for temporary stacks of material.

Path edging

Larger diameter trees can be used to demark the edge of paths. This reduces the need to cut the trees into shorter lengths, provided they can be manoeuvred by two people comfortably.

Burning

Although extensively used by the group in the past, this is rarely done now. However, the following comments remain valid.

We aim to limit the number of areas where we light fires since the nutrients resulting from the ash make the ground too rich for woodland flora. When starting a new fire stack, waste arisings should be placed on a separate stack adjacent to the fire site but not so close that it could catch fire accidentally. This stack can be any size, but stack the waste so it can be disentangled conveniently - that means as:

- A cone with the thick ends of branches at the bottom, or for larger piles.
- A block with the branches all laid in the same direction.

It is best to burn with frequent small fires rather than occasional huge ones. They are easier to control and the absence of accumulated piles reduces over nutrification and the risk of vandalism. The fire must be extinguished before leaving site.

Making Charcoal (Charcoal Burning)

OWG has a separate manual with photographic illustrations and full instructions for Charcoal Burning.

Regenerating hazels

OWG regularly increases the stock of hazel in the woods. This is done in one of two ways:

Planting whips

Whips are nursery grown trees that are one year old. And about 30cm high, with a small root ball. These are planted in selected areas. A guideline for spacing is about 1m apart but, as we are infilling, the whips have to be fitted into appropriate bare spaces. The dense planting encourages the trees to grow straight as they compete for light.

The materials required for planting are:

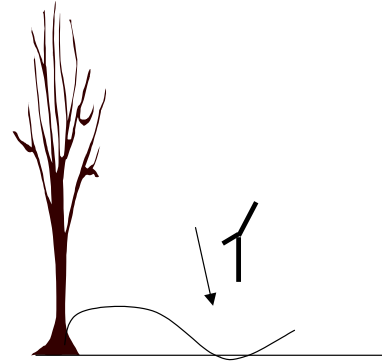
- Whips
- Quills. These are lightweight plastic tubes to protect the plant from rabbits and deer.
- Slim stakes about finger diameter by hip height. These are used to support the quills.

To plant, make a slit in ground with a spade. Remove the whip from its pot, and drop the root ball into the slit. Firm the ground around, and place the quill over the whip. Push the stake into the ground to support the quill.

Layering

The well known gardening technique of layering can also be applied.

To layer, first select a pliable hazel shoot from an existing stool. Carefully bend the shoot over until it touches the ground. It may be necessary to partially cut through the shoot to achieve this. Where the shoot touches the ground, scrape off a small area of bark. Bury this part of the shoot under the surface of the ground, pegging it down with a suitable peg cut from hazel.



The use and misuse of hand tools

OWG has a Method Statement, and appropriate risk assessments. A printed copy is carried in the leaders pack and is available for all volunteers to review.

General Comments

All of the coppicing activities are carried out with hand tools, including many that would be familiar to a gardener, such as loppers, rakes, spades etc. Tools that may be less familiar are bow saws, bill hooks and the post driver (drivall).

As with all tools, it is important to use the correct tool for the job and use it within its limits. It is also important to carry and store the tool it safely. As it is easy to lose tools in the woods, please give some thought to where you put tools down.

A sharp tool is a safe tool - so make sure the tool you are using is sharp. Flat bladed tools such as bill hooks and axes can be honed on site with a hand stone. A stock of spare blades is available for bow saws and these can be changed on site as needed. If any sharpening or maintenance beyond this is needed, hand the tool over the leader.

Be aware of other people working around you and make sure you do not put them in danger. Ensure adequate spacing from other volunteers when using swinging tools (axes, bill hooks etc). When felling branches of hazel, make sure the fall area is clear and shout a warning when the branch is about to fall.

A list of tools, their uses and how to use them is given in Appendix V.

If you are unsure how to use any tool, ask the leader.

Protective Clothing (PPE)

Gloves, safety helmets and eye protection are available as required.

Helmets must be worn when using the post driver. Use at other times is at the discretion of the volunteer, or as a result of any dynamic risk assessment.

When using tools that are swung (bill hooks, axes, mattocks etc.), glove(s) should not be used on the hand(s) holding the shaft because it can slip off the hand and let the tool flyaway. A glove can be worn on a free hand. Similarly, such tools should not be used in very wet conditions because the tool handle can be too slippery.

Power Tools

The Oakley Woodlands Group restricts the use of power tools to battery powered brush cutters for ride and path maintenance. Such tools are only handled by persons who have had specific training.

Power tools are normally not used on routine workdays to avoid danger to volunteers. On the odd occasion that they are used on routine workdays, the operator will make sure that other persons are a safe distance from the tool. Volunteers must follow the instructions of the power tool operator.



APPENDIX I. Glossary.

Arisings	All material “arising” from coppicing, especially material that can be used as a product.
Biodiversity	Means Biological Diversity, the richness or variety of plants and wildlife.
Coppice	A traditional system of growing broad-leaved trees, where the trees regenerate from the cut stumps called stools.
Copse	An area of woodland where coppicing is practised or has been practised in the past.
Coupe	An area to be felled in a wood, sometimes called a cant or panel.
Fascines	Bundles of brushwood that are tied together and used in riverbank stabilisation and channelling schemes.
Hetherings	The long whippy shoots which are used for binding the stakes in hedge-laying.
Ride	An unplanted route within woodlands, used for access, demarcation and conservation.
Scoop/Scallop	An area off a ride that is kept permanently free of shading influences to benefit invertebrates.
Quill	Lightweight plastic tube used to protect whip from rabbits and deer.
Standard	Single stemmed trees left to grow on to maturity, often with coppice growing under and between them. Standards form the dominant layer of the canopy.
Whip	Young tree for planting.

APPENDIX II. Safety- Risk assessments.

The following risk assessments are kept in the leaders pack, and can be viewed by anyone.

1. RA-General
2. RA-Tree felling
3. RA-Stacking
4. RA-Stakes
5. RA-Fence removal
6. RA-Fencing
7. RA-Fires

APPENDIX III. Tool bag contents.

Tools for work parties are carried in bags. To help with housekeeping, each bag is labelled with its contents and these are checked when the bags are reloaded at the end of a work party.

APPENDIX IV. Products table.

Product	Description	Used For	Comment
Stakes	25mm (1") to 60mm (2.5") Diameter, 170cm (5' 6") long. Sharpened at the thin end	Vertical supports for hedging. Mainly sold to other conservation groups	Must be straight enough that a post hammer will fit over the top and drive straight down. 170cm is the minimum length. As a rough guide this is about nose height
Support stakes for deer fencing	As above but about 230 cm (7' 6")long	This is only used by OWG for erecting, temporary deer fencing	As above except for length. A rough guide is the finger tips when holding arm vertically.
Dead hedge stakes	25mm to 40mm diameter.1m long	Dead hedge construction. Mainly OWG use	
Hetherings	At least 3m (10') long. Whippy. Approximately 25mm (1") diameter at the thick end. Twigs removed. Tied into bundles of 20	Binding together the top of the stakes when hedging. Mainly sold to other conservation groups	Length is not critical, 3m (10') is about the minimum but longer is good. Rough guide: 4 paces.
Fascines	Brushwood bundles 30cm (1') finished diameter about 2m (6' to 7') long. Bundles tied up tightly with binder twine	Used for reinforcing the banks of rivers and ponds. Mainly sold to other conservation groups	Sometimes called "faggots" Rough guide: Diameter, just less than two hand spans. Length: About 2.5 paces.
Bean Poles	Poles 2m to 3m (7' to 10') long, 20mm to 40mm (0.75" to 1.5") diameter. Tied into bundles of 10	Supporting beans. mainly sold to local gardeners	Don't need to be perfectly straight. Cut the bottom of the pole at an angle to provide a point
Pea Sticks	"Twiggy" sticks (90cm to 180cm) 3' to 6' long. Tied into bundles of 10.	I Supporting pea plants. Mainly sold to local gardeners.	Sold as 2 bundles.
Charcoal Wood	Minimum 50mm (2") diameter hazel. Length unimportant. Seasoned for 1 year or more (but not going rotten). Cut into random lengths (maximum about 2') for use	Used by OWG for making charcoal then sold in bags containing 2.5 bucketsful (about 4 Kg)	Stored in stacks whilst maturing to minimise water ingress
Other products	Occasionally we meet requests for other products such as rustic poles, walking sticks, fence posts etc.		Note: Hazel is not an ideal wood for fence posts as it rots quicker then woods such as chestnut. However it can be supplied for these uses as long as the buyer understands this.
Waste	Any cut down material which does not fall into the above categories should be burned or chipped.		Burning is confined to limited areas.

APPENDIX V. Use of Tools Table.

Tool	Carrying And Storing (On-Site)	Using	Maintenance	Comments
Loppers	Carry the tool closed, at your side	Leave flat on the ground	Report to the leader if the blades get loose, distorted or blunt.	Used to cut wood up to about the thickness of your thumb.
Bow saw	Carry hanging by your side, blade down Store lying flat. Fix the guard on when returning to storage.	Let the blade do the work, do not force the pinching and twisting the blade Do not use the thumb to guide the blade. Use a gloved hand to steady the work.	Check the blade is not loose and the teeth are in line. If the blade gets blunt. Put the saw aside and report to leader	Use for cutting medium sized timbers, from 1" (25mm) to 4" (100mm).
Pruning saw	As above	As above	If blade gets blunt, put saw aside and report to leader	Small pruning saws are good for cutting in areas inaccessible to a bow saw.
Bill hook & axe	Carry hanging by your side, blade down. Store lying flat	Keep both hands behind the cutting edge. Cut away from the body. Cut branches off felled tree on side away from you. DO NOT WEAR GLOVE ON HAND HOLDING TOOL OR USE WHEN VERY WET or the tool may slip from your hand.	Ensure that the blade is sharp by regular use of a stone.	Used to cut coppice, lay hedges, clean up felled wood, and sharpen stakes.
Rake, pitchforks, spade	Carry at your side at the point of balance with the blade/spike in front	Store flat on ground with the blade/spikes pointing downwards.		
Post hammer (drivall)	Carry at your side at the point of balance	Often necessary to have two operators. Long stakes should be entered into the hammer at low level then raised along with stake.		Hard hats mandatory